

Table 11. Travel Model Input Variables

Generation Rates for Housing	1995 Base Year		2025 Design Year	
Excellent	12.0		13.47	
Above Average	10.0		11.47	
Average	8.7		10.17	
Below Average	6.6		8.07	
Poor	4.0		5.47	
Commercial Auto	40.0		41.47	
Taxi	6.70		8.17	
Trips by Purpose	1995 Base Year		2025 Design Year	
Internal of Total	50,803	90%	103,055	90%
Home Based Work	11,685	23%	23,703	23%
Home Based Other	24,893	49%	50,497	49%
Non-Home Based	14,225	28%	28,855	28%
Persons / Household	3.00		2.52	
Average Daily Trips / Household	8.32		9.95	
Employment-to-Population Ratio	0.59		0.65	

Trip Distribution

Trip distribution is the next phase in the travel demand forecasting process. Trip distribution uses the productions and attractions output by trip generation to create trip origins and destinations for each zone. The gravity model was used to distribute trips across the network based upon the relative attractiveness of the destination zone and the distance from the productions. The gravity model is based on the concept that the trips from one zone to another zone is proportional to the trip attractions and productions at each zone and inversely proportional to the impedance (or travel time) between the zones.

The gravity model is expressed by the following equation:

$$T_{ij} = P_i \times \frac{A_j \times F_{ij} \times K_{ij}}{\sum_{j=1}^n (A_j \times F_{ij} \times K_{ij})}$$

- Where:
- T_{ij} = Number of trips produced in zone i and attracted to zone j
 - P_i = Number of trips produced in zone i
 - A_j = Number of trips attracted in zone j
 - F_{ij} = Friction factor from zone i to zone j
 - K_{ij} = Socio-economic adjustment factor
 - n = Total number of zones
 - i = Origin zone number
 - j = Destination zone number